



Best Management Practices for Construction and Development Projects Topeka Shiner *Notropis topeka*

Common name • Topeka Shiner
Scientific name • *Notropis topeka*
Federal status • Endangered
State status • Endangered

Purpose and Use

The information in this document is to be used to help avoid and minimize species impacts due to construction practices. It is not intended as a guide to manage habitat for a given species. Please contact the Department of Conservation if habitat management information is needed. Because every project and location differ, following the recommendations in this document does not guarantee impacts will not occur to the species and additional information may be required in certain instances. Following the recommendations in this document does not complete Endangered Species Act consultation that may be necessary for species listed under the federal Endangered Species Act; please contact the U.S. Fish and Wildlife Service for more information.

Ecology

Topeka Shiners were historically widespread in western tributaries of the Mississippi River from central Missouri to southern Minnesota, west to South Dakota and western Kansas. Currently in northwest and central Missouri, they typically occupy permanent pools of small, clear, high quality headwater streams draining upland areas. Typical stream substrates are gravel, rubble, sand, or bedrock often with a slight layer of silt. Many occupied streams become intermittent in the summer, but the pools are maintained by percolation of water from subterranean flow. Topeka Shiners feed primarily on aquatic insects. Males defend small territories around Green Sunfish or Orangespotted Sunfish nests, the primary spawning location. Spawning takes place from late May to late July. Adult Topeka Shiners typically reach a length of 1.5-2 inches.

Reasons for Decline

A combination of factors has caused the dramatic decline of the Topeka Shiner from over 80 percent of its former geographic range in Missouri and over 90 percent throughout its entire range. Threats to the Topeka Shiner include habitat loss and degradation, reduced water quality, altered stream hydrology, barriers to fish movement, and increased extreme weather events due to climate change.

Habitat loss and poor water quality can result from many causes including runoff with high levels of sediment and nutrients, removal of streamside vegetation, poorly designed stream crossings, improper gravel removal, inappropriate culvert placements, inadequate erosion controls, and timber clearing operations. Stream hydrology is altered on a watershed scale by land uses that increase runoff rates (agriculture, urbanization), drain tile, loss of wetlands, lowering of groundwater reserves, channel straightening, and impoundments. Barriers to fish movements (dams, perched culverts, high velocity culverts) can be especially critical to species like Topeka Shiners that occupy headwater reaches of streams where seasonal water fluctuations can determine habitat suitability and survival.

Specific Recommendations

The Topeka Shiner is an excellent indicator of stream health because of its sensitivity to habitat changes. Efforts should be made to ensure our waterways are healthy through protection and/or restoration of habitat for this and other aquatic species.

- No work should occur below the high bank of the stream between May 15 and July 31 to avoid disrupting spawning activity.
- Sheet piling for coffer dams for the construction of bridge piers may be placed after July 31 but should be removed prior to May 15 of the following year. Removal of coffer dams should be coordinated with appropriate Missouri Department of Conservation personnel.
- Dams and other impoundments should not be constructed on streams where this species occurs.
- Erosion and sediment controls should be implemented, maintained, and monitored for the duration of the project.
- For new permanent road crossings, use of a span bridge may be more appropriate than placement of a culvert due to the potential of migration restriction for this species.
- Replacement of culverts with a span bridge should also be accompanied by grade control in the stream channel as needed to prevent head-cutting, channel incision, extensive bank erosion and habitat degradation upstream.

General Recommendations

Refer to *Best Management Practices for Construction and Development Projects Affecting Missouri Rivers and Streams*.

If your project involves the use of Federal Highway Administration transportation funds, these recommendations may not fulfill all contract requirements. Please contact the Missouri Department of Transportation at 573-526-4778 or the [Missouri Department of Transportation Environmental Studies webpage](#) for additional information on recommendations.

appropriate agency. Following the recommendations provided in this document will help reduce and avoid project impacts to the species, but impacts may still occur. Please contact the appropriate agency for further coordination and to complete compliance requirements.

Information Contacts

For further information regarding regulations for development in rivers and streams, contact:

For species information:

[Missouri Department of Conservation](#)

Science Branch
P.O. Box 180
Jefferson City, MO 65102-0180
Telephone: 573-751-4115

For species information and Endangered Species Act Coordination:

[U.S. Fish and Wildlife Service](#)

Ecological Services
101 Park Deville Drive, Suite A
Columbia, MO 65203-0007
Telephone: 573-234-2132

For Clean Water Act Coordination:

[Missouri Department of Natural Resources](#)

Water Protection Program
P.O. Box 176
Jefferson City, MO 65102-0176
Telephone: 573-751-1300, 800-361-4827

[U.S. Army Corps of Engineers](#)

Regulatory Branch
700 Federal Building
Kansas City, MO 64106-2896
Telephone: 816-389-3990

[U.S. Environmental Protection Agency](#)

EPA Region 7 Water Division
11201 Renner Boulevard
Lenexa, KS 66219
Telephone: 913-551-7977

Disclaimer

These Best Management Practices were prepared by the Missouri Department of Conservation with assistance from state and federal agencies, contractors, and others to provide guidance to those who wish to voluntarily act to protect wildlife and habitat. Compliance with these Best Management Practices is not required by the Missouri wildlife and forestry law nor by any regulation of the Missouri Conservation Commission. Federal laws such as the Clean Water Act and the Endangered Species Act, and state or Local laws need to be considered for construction and development projects and require permits and/or consultation with the